



# Indiana Crop & Weather Report

INDIANA AGRICULTURAL STATISTICS  
U.S. DEPARTMENT OF AGRICULTURE  
PURDUE UNIVERSITY  
1148 AGAD BLDG, ROOM 223  
WEST LAFAYETTE, IN 47907-1148  
Phone (765)494-8371  
Phone (800)363-0469  
FAX (765)494-4315  
FAX (800)363-0475

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## CROP REPORT FOR WEEK ENDING JULY 15

### AGRICULTURAL SUMMARY

Farmers had an excellent week to harvest winter wheat, and baling hay or straw, according to the Indiana Agriculture Statistics Service. Spraying for weeds is winding down in most areas of the state. Precipitation was minimal in the northern regions. However, most of the central and southern regions received rain. Japanese beetles and corn rootworm are reported to be active in some fields.

### FIELD CROPS REPORT

There were 5.2 **days suitable for fieldwork**. Corn **condition** is rated 78 percent good to excellent compared with 78 percent last week and 84 percent last year at this time. Fifty-two percent of the corn acreage has **silked** compared with 61 percent last year and 30 percent for the 5-year average. Soybean **condition** improved and is rated 70 percent good to excellent compared with 66 percent last week and 71 percent last year. Fifty-six percent of the soybean acreage is **blooming** compared with 58 percent last year and 39 percent for the average. Seventeen percent of the soybean acreage is **setting pods** compared with 14 percent last year and 7 percent for the average. Other activities during the week included harvesting mint, mowing road sides, cleaning grain bins, repairing equipment, moving grain to market, and county fair activities.

Wheat **harvest** is 96 percent complete compared with 97 percent last year and 81 percent for the 5-year average. By area, wheat harvest is 89 percent complete in the north, virtually complete in the central regions and 99 percent complete in the south.

### LIVESTOCK, PASTURE AND RANGE REPORT

**Pasture condition** is rated 7 percent excellent, 49 percent good, 29 percent fair, 11 percent poor and 4 percent very poor. Second cutting of **alfalfa** hay is 75 percent complete. Livestock are in mostly good condition.

### CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg
Percent				
Corn Silked	52	23	61	30
Corn Dough	2	NA	3	2
Soybeans Blooming	56	27	58	39
Soybeans Podding	17	NA	14	7
Wheat Harvested	96	66	97	81
Alfalfa Second Cutting	75	39	75	55

### CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excellent
Percent					
Corn	1	3	18	58	20
Soybeans	1	5	24	58	12
Pasture	4	11	29	49	7

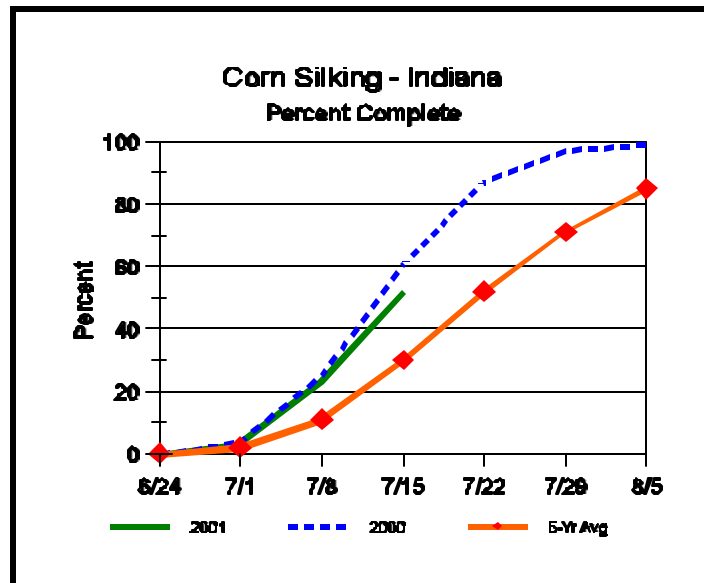
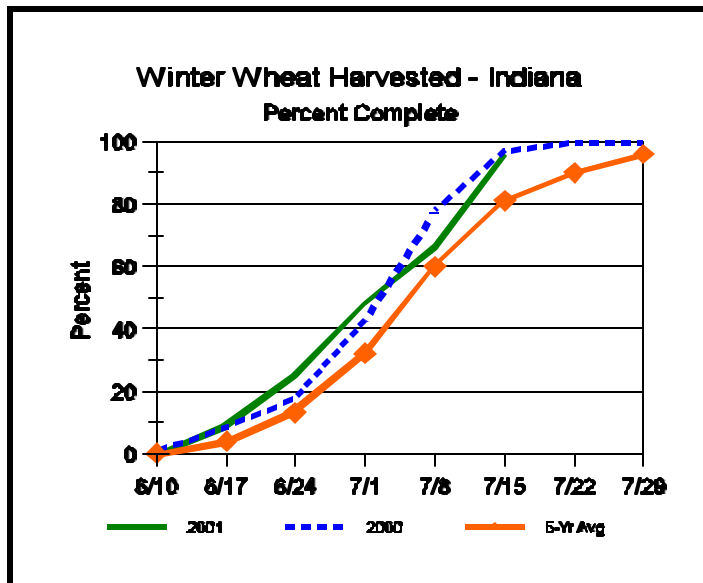
### SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

	This Week	Last Week	Last Year
Percent			
<b>Topsoil</b>			
Very Short	4	4	0
Short	17	12	5
Adequate	71	72	81
Surplus	8	12	14
<b>Subsoil</b>			
Very Short	6	6	1
Short	18	15	13
Adequate	70	71	77
Surplus	6	8	9
<b>Days Suitable</b>	5.2	4.5	5.0

### CONTACT INFORMATION

--Ralph W. Gann, State Statistician  
--Bud Bever, Agricultural Statistician  
E-Mail Address: [nass-in@nass.usda.gov](mailto:nass-in@nass.usda.gov)  
<http://www.nass.usda.gov/in/index.htm>

## Crop Progress



### Other Agricultural Comments And News

#### Soybean Aphid Showing Up In Indiana Soybean Fields

- This new pest quickly being confirmed throughout the Midwest
- There are more questions than answers at this time
- Brief information on history, damage, and biology given
- No treatment thresholds established
- Late planted soybean with poor soil fertility levels may express damage first

We knew it was just a matter of time, finally field inspections this past week revealed soybean aphid (*Aphis glycines* Matsumura) in several northern and west central Indiana soybean fields (Elkhart, Kosciusko, Marshall, Noble, Porter, and Tippecanoe Counties). Every field sampled had some level of infestation, ranging from 7-23%. Most densities per plant were very low. These findings are similar to other states from Iowa to New York and Ontario to Kentucky confirming their presence. No question soybean aphid appears established in the Midwest, now the many hard questions are beginning. The following is some of what we know.

Soybean aphid is native to Asia, and its distribution includes China, Korea, Japan, Philippines, Thailand, Vietnam, Australia, and Eastern Russia. In July of 2000, researchers in Wisconsin discovered aphids feeding on soybeans. The 2000 discovery was the first report of this species in North America. By the end of the 2000 growing season, soybean aphid was confirmed in eight Midwestern states, with highest populations in areas bordering Lake Michigan. In

Indiana, the aphid was found on soybeans in every county surveyed (46), with the highest infestation levels in Northwestern Indiana.

The soybean aphid feeds by using a needle-like, sucking mouthpart to remove plant sap. Plant damage occurs from large numbers of aphids removing a significant amount of water and nutrients as they feed on leaves and stems. In some fields in Northwestern Indiana, in 2000, plants were covered with aphids, and leaves were curled and wilted. Leaves on the bottom-third of plants were covered with shed aphid skins (resembling white powder) and aphid secreted honeydew, both of which are signs of aphid presence. Gray sooty mold, growing on the honeydew, also covered these leaves. Plants covered with aphids were often stunted compared to plants from other parts of the field. In some cases, heavily infested plants showed dramatic leaf yellowing. This yellowing may have been associated with potassium (K) deficiency, because symptoms can be more pronounced in fields where both high numbers of aphids and deficient levels of K are found.

Little data are currently available on yield losses due to soybean aphid in the US because soybean aphid was found too late in the field season to conduct replicated field trials. However, what is known is that soybean aphid caused significant reduction in plant height and 28% yield reduction in Chinese field studies and that this species transmitted soybean viruses in Asia. Reports from Wisconsin and Michigan in 2000 indicated that heavy aphid infestations caused stunting

(Continued on Page 4)

# Weather Information Table

Week ending Sunday July 15, 2001

Station	Past Week Weather Summary Data							Accumulation				
	Air				Precip.		Avg	April 1, 2001 thru				
	Temperature				Total		4 in	July 15, 2001				
	Hi	Lo	Avg	DFN	Total	Days	Soil Temp	Precipitation	DFN	Days	Total	DFN
<b>Northwest (1)</b>												
Valparaiso_Ag	89	55	72	-2	0.11	1		10.84	-3.21	50	1448	+123
Wanatah	90	48	69	-4	0.00	0	80	12.22	-1.28	50	1365	+105
Wheatfield	91	51	71	-3	0.00	0		11.94	-1.35	48	1448	+148
Winamac	89	51	70	-4	0.00	0	80	15.17	+1.84	49	1446	+85
<b>North Central(2)</b>												
Logansport	90	53	71	-3	0.54	1		16.45	+3.67	52	1459	+74
Plymouth	87	51	69	-6	0.00	0		13.01	-0.94	48	1327	-92
South_Bend	88	53	69	-4	0.00	0		14.51	+1.46	48	1410	+102
Young_America	88	49	70	-5	0.73	1		12.74	-0.04	44	1535	+150
<b>Northeast (3)</b>												
Bluffton	89	53	71	-4	0.00	0	74	13.31	-0.02	51	1482	+63
Fort_Wayne	89	53	71	-4	0.00	0		13.16	+1.06	50	1464	+89
<b>West Central (4)</b>												
Crawfordsville	91	47	70	-5	1.23	1	76	12.76	-1.54	44	1463	-53
Perrysville	90	49	71	-4	0.83	1	77	10.56	-3.78	41	1602	+122
Terre_Haute_Ag	96	53	74	-3	1.76	2	77	17.59	+3.29	41	1783	+201
W_Lafayette_6NW	89	49	70	-5	0.75	2	79	11.43	-1.75	43	1585	+196
<b>Central (5)</b>												
Castleton	90	54	73	-4	1.10	1		16.46	+2.77	42	1616	+74
Greenfield	92	62	76	+1	1.20	1		15.42	+1.05	45	1632	+145
Greensburg	90	55	72	-3	1.45	1		15.89	+1.41	41	1715	+250
Indianapolis_AP	90	54	73	-4	1.06	1		14.58	+1.26	37	1726	+161
Indianapolis_SE	90	54	72	-4	1.15	2		13.52	-0.17	37	1546	+4
Tipton_Ag	89	50	69	-5	0.59	1	73	12.06	-1.14	37	1414	+73
<b>East Central (6)</b>												
Farmland	90	50	70	-3	0.16	1	76	13.12	-0.22	43	1459	+160
New_Castle	86	52	69	-5	0.73	1		19.54	+5.01	48	1302	-27
<b>Southwest (7)</b>												
Dubois_Ag	93	53	73	-3	0.48	1	81	12.46	-3.07	36	1851	+260
Evansville	96	58	76	-3	2.96	2		12.43	-1.79	38	2050	+189
Freelandville	94	56	74	-3	1.62	1		11.30	-3.37	34	1844	+202
Shoals	92	52	73	-3	1.42	1		12.69	-3.07	39	1727	+155
Vincennes_5NE	98	54	74	-3	1.54	1	75	10.35	-4.32	28	1917	+275
<b>South Central(8)</b>												
Bloomington	90	54	73	-4	1.20	1		15.02	+0.55	42	1739	+139
Tell_City	95	57	76	-3	0.29	1		11.71	-4.24	27	1958	+206
<b>Southeast (9)</b>												
Scottsburg	91	55	73	-3	1.40	1		14.46	-0.22	45	1796	+166

DFN = Departure From Normal (Using 1961-90 Normals Period).

GDD = Growing Degree Days.

Precipitation (rain or melted snow/ice) in inches.

Precipitation Days = Days with precipitation of 0.01 inch or more.

Air Temperatures in Degrees Fahrenheit.

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## Soybean Aphid Showing Up In Indiana Soybean Fields (Continued)

and poor pod fill, as well as yield reduction in replicated and unreplicated strip trials.

Soybean aphid has a very complicated, but typical, aphid lifecycle. In the US, as in China, it feeds and reproduces in the summer on soybeans. The summer aphid population can be non-winged or winged (dispersal phase), but all are females. No males are present or needed for reproduction during this time period! The females reproduce parthenogenetically (egg development without fertilization). Females give birth to female offspring, so aphid numbers can increase quickly on soybean. In the fall, as temperatures drop and days grow shorter, a generation of winged females (gynoparae) and males are produced. Both migrate from soybean to their overwintering host plant Rhamnus, a shrubby tree also known as buckthorn. Gynoparae give birth to non-winged females called oviparae. Oviparae mature, mate with the males, and lay eggs on the buckthorn. Eggs overwinter and hatch in the spring. Aphids emerging in the spring are females. After several generations on the overwintering host, winged spring migrants fly to soybean to establish new colonies.

A striking feature of soybean aphid infestation in soybean fields in 2000 was the large number of beneficial organisms. Predatory insects, especially lady beetles, lacewings, and syrphid fly larvae, were very abundant in infested fields. Parasitic wasps, which lay eggs directly into aphids, were less abundant, but still present. Although not observed in Indiana, several different fungal pathogens infected

and killed high numbers of aphids in Wisconsin and Michigan. All of these biocontrol agents have the potential to dramatically reduce aphid numbers in Indiana to below economic levels, but sometimes this does not occur soon enough to prevent damage to soybeans.

Based on experience with soybean aphid in 2000 and with aphids in other crops, spraying for this insect is not recommended, except in cases of high infestations. Economic yield loss has not yet been documented in the US, and treatment guidelines are sketchy at best. If fields are sprayed for aphids late in the season, be sure to obtain good coverage of leaves. Remember that infested fields tend to have large numbers of natural enemies and that spraying may kill them, but not all of the aphids. This can result in a resurgence of aphid numbers. Fungal pathogens did a good job of killing soybean aphids in Wisconsin and Michigan in 2000, and populations crashed in a matter of days at many locations without the application of insecticides.

Further information with many color pictures can be found in extension publication E-217, Soybean Aphid (new May 2001). A hard-copy of this publication can be obtained by calling 1-888-EXT-INFO or an electronic c o p y v i e w e d a t <<http://www.entm.purdue.edu/entomology/ext/targets/e-series/e-list.htm>>.

John Obermeyer, Rich Edwards, and Larry Bledsoe, Purdue University, Dept. of Entomology.